KAJIAN PENCEMARAN AIRTANAH OLEH AKTIFITAS DOMESTIK DI DAERAH PARANGTRITIS KECAMATAN KRETEK KABUPATEN BANTUL DAERAH ISTIMEWA YOGYAKARTA

INTI SARI

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Air merupakan salah satu kebutuhan utama setiap makhluk hidup. Salah satu sumber air bersih alternatif yang baik adalah airtanah. Daerah Parangtritis merupakan salah satu kawasan objek wisata pantai yang menggunakan airtanah sebagai sumber pemenuhan kebutuhan air. Meningkatnya kebutuhan setiap orang dalam berekreasi mengakibatkan Parangtritis menjadi salah satu objek wisata yang kerap dikunjungi. Hal ini menyebabkan jumlah limbah domestik yang dihasilkan semakin meningkat sehingga mempengaruhi kualitas airtanah.

Penelitian ini bertujuan untuk mengetahui kualitas airtanah akibat limbah domestik ditinjau dari parameter fisik (suhu), parameter kimia (pH, amonia, kesadahan, salinitas, nitrat, nitrit, fosfat, COD dan BOD), dan parameter biologi (bakteri *Escherichia coli*). Dengan mengetahui kualitas airtanah di daerah Parangtritis, maka dapat diketahui seberapa besar pencemaran yang terjadi.

Metode penelitian yang digunakan dalam penelitian ini adalah metode survey lapangan, metode uji laboratorium dan analisis. Metode survey lapangan dalam penelitian ini bertujuan untuk mengukur tinggi muka airtanah, mengambil sampel air sumur gali, mengetahui letak koordinat dan ketinggian lokasi pengambilan sampel dengan bantuan GPS serta data-data sekunder yang dibutuhkan. Metode uji laboratorium digunakan untuk mengukur kadar polutan sampel yang diambil. Metode analisis digunakan untuk menganalisis hasil dari uji laboratorium.

Dari hasil percobaan dan pengujian yang dikerjakan, kadar tertinggi dari masing-masing parameter seperti: suhu sebesar $24{,}5^{0}$C, pH tertinggi 8,27 (baku mutu 6-9), amonia dan salinitas tertinggi 0,4 mg/l dan 1,6 $^{o}/_{oo}$ (tidak memiliki syarat yang ditetapkan), BOD tertinggi 3,09 mg/l (baku mutu 3 mg/l), COD tertinggi 14,78 (baku mutu 25 mg/l), nitrat tertinggi 9,514 mg/l (baku mutu 10 mg/l), nitrit tertinggi 0,114 mg/l (baku mutu 0,06 mg/l), fosfat tertinggi 2,337 mg/l (baku mutu 0,2 mg/l), kesadahan tertinggi 352,42 mg/l (baku mutu 500 mg/l) dan *E.coli* tertinggi 43 ml (baku mutu ≤1000 MPN/100 ml).

Kata kunci : airtanah, limbah domestik dan *E.coli*

STUDY OF SOIL WATER POLLUTION BY DOMESTIC ACTIVITIES IN PARANGTRITIS AREA KRETEK SUBDISTRICT BANTUL REGENCY YOGYAKARTA SPECIAL REGION

ABSTRACT

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Water is the most important necessity for every living creature. One of the good alternative clean water sources is ground water. Parangtritis is one of the tourism objects which uses ground water as a source to satisfy the necessity seaside of water. The rising demands for everyone in recreation result Parangtritis to become one of tourism objects ofter visited. This matter causes the amount of domestic waste produced gets more and more, so that it influences the quality of ground water.

The research is to have the purpose to know the quality of ground water caused by domestic waste observed from physical parameter (temperature), chemistry parameter (PH, ammonia, hardness, salinity, nitrate, nitrite, phosphate, COD and BOD) and biological parameter (*Eschericia coli* bacteries). By understanding the quality of ground water at Parangtritis, it is known how much pollution has occurred.

The research methods used in this research are the field survey method, laboratory test method and analysis. The field survey method.in this research is to have the purpose to measure the level of ground water surface, to take the sample of dug well water, to know the coordinate area and the level of the location to take the sample with the help of GPS as well as the secondary data required. The laboratory test method is used to measure the amount of sample pollutant amount taken. Analysis method is used to analyze the result of laboratory test.

From the experiment and test result implemented, the highest amount of each parameter is : the temperature is 24,5^{0}C, the highest pH is 8,27. (standard of quality 6-9), the highest ammonia and salinity is 0,4 mg/l and 1,6 $^o/_{oo}$ (doesn't have fixed requirement), the highest BOD is 3,09 mg/l (standard of quality 25 mg/l), the highest COD is 14,78 mg/l (standard of quality 25 mg/l), the highest nitrate is 9,514 mg/l (standard of quality 10 mg/l), the highest nitrite is 0,114 mg/l (standard of quality 0,06 mg/l), the highest phosphate is 2,337 mg/l (standard quality 02 mg/l), the highest hardness is 352,42 mg/l (standard of quality 500 mg/l) and the highest *E.coli* is 43 ml (standard of quality $\leq$ 1000 MPN/100 ml).

The key words are : ground water, domestic waste and *E.coli*